



2012 Edition

# HAM RADIO PRODUCTS

**All Band** Transceivers



**Mobile** Transceivers



**Handheld** Transceivers



**Base Station** Transceivers





Icom's flagship HF transceiver

+40dBm 3rd order intercept point (in the HF bands)

Three hi-spec 1st IF filters (roofing filters)

Two completely independent receiver circuits

Four 32-bit DSP units and 24-bit AD/DA converters

Digital IF filter

200W output power and high-stability transmitter



## HF/50MHz TRANSCEIVER

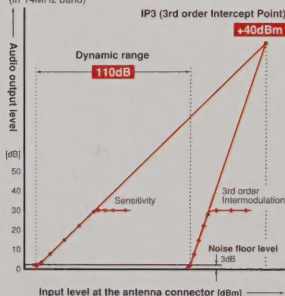
# IC-7800

### +40dBm IP3

#### (3rd order Intercept Point)

Icom's considerable analog RF circuit experience combined with cutting-edge digital technology results in an astonishing 110dB receiver dynamic range and a +40dBm IP3 in the HF bands – the first in ham radio! To achieve this superior receiver performance, Icom's engineering team completely re-engineered all of the analog circuitry to match the DSP system.

#### Dynamic range characteristics



BPF unit



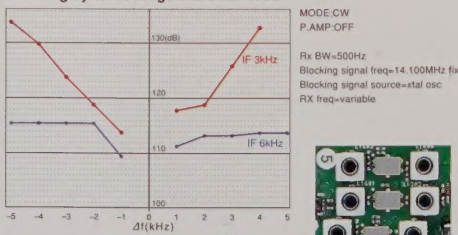
DIGI-SEL unit

### Three Hi-spec 1st IF Filters (Roofing Filter)\*1

In addition to selectable 6kHz and 15kHz roofing filters, the IC-7800 has a 3kHz roofing filter before the 1st IF amplifier. It provides 134dB\*2 (approx.) of blocking dynamic range and allows you to pull out a weak signal while blocking strong adjacent signals. (The FM mode filter is fixed at 15kHz.)

\*1 Icom calls the roofing filters "hi-spec 1st IF filters", because their performance is much better than regular IF filters. \*2 At 14.1MHz receive, with 5kHz separation of interference signal.

#### Blocking dynamic range characteristics



Hi-spec 1st IF filters (Roofing filters)

### Two Completely Independent Receiver Circuits

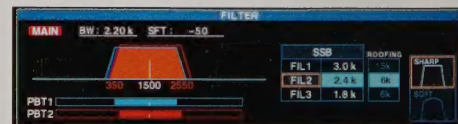
Dual receivers allow you to receive on two different bands simultaneously in different modes, without the receivers affecting each other.

### Quad Processing

The IC-7800 incorporates four independent, 32-bit DSP units and 24-bit AD/DA converters. By having four independent DSP units, the radio responds to operator changes in an instant, as each DSP unit is dedicated to a single function. While each receiver has its own dedicated DSP unit, there is a DSP unit for transmit as well as a DSP unit for the spectrum scope.

### Digital IF Filter

Icom's digital IF filters give you performance that is not possible with crystal or mechanical filters. They allow the operator to adjust filter shape (sharp or soft), filter bandwidth, and center frequency characteristics, without missing the action. Multiple filter memories store the most-recently used filter settings for each operating mode.



Filter preset screen

### Ultra High Stability OCXO Unit

The IC-7800 uses the OCXO (Oven Control Crystal Oscillator) unit which is stable to within  $\pm 0.05$ ppm from 0°C to 50°C. This specification means that even on the 50MHz band, frequency error is less than 2.5Hz!



# D-STAR Handheld Radio Selection Chart

full-featured radios; Icom has the right radio for the right job



RADIO/FEATURES	ID-31A	IC-80AD	IC-92AD
<b>GENERAL</b>			
Digital Functionality	D-STAR Ready	D-STAR Ready	D-STAR Ready
Weight	225 g; 8.0 oz.	290 g; 10.3 oz.	325 g; 11.5 oz.
Transmit Power	5.0 / 2.5 / 0.5 / 0.1 W (High / Mid / Low / Super Low)	5.0 / 2.5 / 0.5 / 0.1 W (High / Mid / Low / Super Low)	5.0 / 2.5 / 0.5 / 0.1 W (High / Mid / Low / Super Low)
PC Control (RS)	Yes	N/A	Yes
Waterproof Rating	IPX7	IPX4	IPX7
Mic Gain	Internal/External	N/A	N/A
Audio Equalizer	Yes RX Bass / Treble TX Bass / Treble	N/A	N/A
Micro SD Card	Yes Expands radio functions / Memory / DVR	N/A	N/A
Quick Menu	Yes	N/A	N/A
Clock	Regular clock, GPS time correction, UTC offset	N/A	N/A
<b>DISPLAY</b>			
	Dot Matrix	LCD	Dot Matrix
Font Size	Large/Small	N/A	Large/Small
Band Scope	Yes	N/A	Yes
<b>DV MODE</b>			
DV Automatic Detection	Off / On	Off / On	Off / On
One Touch Reply	Yes	Yes	Yes
Auto Reply	Off / Voice	N/A	Off / Voice
Data Transfer (Data Cable)	Yes (OPC-2218LU)	Yes (OPC-1529R)	Yes (OPC-1799)
Voice Recorder Function	Yes	N/A	Yes
<b>MEMORY CHANNELS</b>			
	1252	1000	850 A Band / 400 B Band
Memory Banks	26	26	26
Memory Name	16 Characters (Alphanumeric)	8 Character (Alphanumeric)	8 Character (Alphanumeric)
Call CH	2	2	2 A Band / 2 B Band
Program Scan Edge Channels	50	50	50 A Band / 50 B Band
DTMF Memory	16	16	10
Repeater Directory	Yes	N/A	N/A
Repeater Near Me (GPS assisted)	Yes	N/A	N/A



# D-STAR Handheld Radio Selection Chart

full-featured radios; Icom has the right radio for the right job



RADIO/FEATURES	ID-31A	IC-80AD	IC-92AD
<b>CALLSIGNS</b>			
My Callsign	6	6	6
Your Callsign	CQCQCQ/Gateway CQ / Your callsign / RX History / TX History	60	60
Repeater Callsign	Repeater List (700)	Repeater List (300)	60
DR Mode	Yes	Yes	N/A
Received RPT Callsign Record	Off / On	Off / Auto	Off / Auto
Speech	RX Callsign (Kerchunk/All) RX>CS, Letter/Phonetic	N/A	N/A
<b>MESSAGING</b>			
Tx Message Channel	5	5	5
<b>GPS CONNECTIVITY</b>			
	Built-in	Optional GPS Speaker Mic	Optional GPS Speaker Mic
GPS Memory	Yes	Yes	Yes
Compass Display	Yes	D/F Display Only	Yes
GPS Sending Mode	Off / GPS / GPS-A	Off / GPS / GPS-A	Off / GPS / GPS-A
GPS-A Function	Yes	Yes	Yes
GPS-A Symbol	16 Types (Preset)	16 Types (Preset)	16 Types (Preset)
GPS Auto Transmission	Off / 5 sec / 10 sec / 30 sec / 1 min / 3 min / 5 min / 10 min / 30 min	Off / 5 sec / 10 sec / 30 sec / 1 min / 3 min / 5 min / 10 min / 30 min	Off / 5 sec / 10 sec / 30 sec / 1 min / 3 min / 5 min / 10 min / 30 min
GPS Sentence	RMC / GGA / GGL / GSA / VTG / GSV	RMC / GGA / GLL / GSA / VTG / GSV	RMC / GGA / GGL / GSA / VTG / GSV
GPS Alarm	Yes	Yes	Yes
Unproto Address	AP131, D-STAR	AP180, D-STAR	AP192, D-STAR
Data Extension	Off / Course / Speed	Off / CUR-SPD	Off / Course / Speed
Time Stamp	Off / DHM / HMS	Off / DHM / HMS	Off / DHM / HMS
GPS Output	Yes, output via the data jack with function enabled	Provides GPS Output On The Data Jack When Optional GPS Speaker Mic Is Attached	N/A
GPS Logging	Yes	N/A	N/A



# D-STAR Mobile Radio Selection Chart

full-featured radios; Icom has the right radio for the right job



## RADIO/FEATURES

### ID-880H

### IC-2820H

### ID-1

## GENERAL

Digital Functionality	D-STAR Upgradable	D-STAR Upgradable	D-STAR Compatible
DD Mode (Digital Data Mode)	N/A	N/A	Yes
Transmit Power	50 / 15 / 5 W (High/Mid/Low)	50 / 15 / 5 W (High/Mid/Low)	10 / 1 W (High/Low)
Digital Monitor	Auto / Digital / Analog	Auto / Digital / Analog	N/A
<b>DISPLAY</b>	LCD	Dot Matrix	Dot Matrix
Character Size	Fixed	Variable	Variable
Remote Head Mount	Magnetic	Magnetic	Bracket
Band Scope	N/A	Yes	N/A

## DV MODE

DV Automatic Detection	Off / On	Off / On	N/A
One Touch Reply	Yes	Yes	N/A
Auto Answer / Reply	Off / On	Off / On / Voice	Off / On
DV Data Sending	PTT / Auto	PTT / Auto	PTT / Auto
Data Cable	Yes (OPC 1529R)	Yes (OPC 1529R)	Yes (USB)
Sound Recorder Function	N/A	Yes	N/A

## MEMORY CHANNELS

	1000	500	100
Memory Banks	26	60	20
Memory Name	8 Character (Alphanumeric)	8 Character (Alphanumeric)	10 Character (Alphanumeric)
Frequency / Name Priority	Frequency / Name	Frequency / Name	Frequency / Name
Call CH	2	26	1
Scan Edges	50	2	3
DTMF Memory	24	16	N/A
Digital RPT Set	Off / On	Off / On	Off / On

## CALLSIGNS

My Call Sign	6	6	5
Your Call Sign	60	60	20
Repeater Call Sign	Repeater List (300)	60	20
DR Mode	Yes	N/A	N/A
Received Callsign Record	Off / Auto (20)	Off / Auto (20)	Off / Auto (14)
Received RPT Callsign Record	Off / Auto	Off / Auto	N/A

## MESSAGING

Tx Message	5	5	1
Tx GPS Message	1	1	N/A
Rx Message	1	1	Yes (Software Only)

## GPS CONNECTIVITY

	Optional / External	Optional DV / GPS (UT-123)	N/A
Personal Position Info Display	D / F Display Only	D / F Display + Compass Rose	N/A
Other Person Position Info Display	D / F Display Only	D / F Display + Compass Rose	N/A
GPS Memory	50	100	N/A
Compass Display	D / F Display Only	Yes	N/A
GPS Sending Mode	Off / GPS / GPS-A	Off / GPS / GPS-A	N/A



# D-STAR Mobile Radio Selection Chart

full-featured radios; Icom has the right radio for the right job



RADIO/FEATURES	ID-880H	IC-2820H	ID-1
<b>GPS CONNECTIVITY</b>			
GPS-A Function	Yes	Yes	N/A
GPS-A Symbol	16 Types (Preset) Default: CAR	16 Types (Preset) Default: CAR	N/A
GPS Auto Transmission	Off / 30 sec / 1 min / 3 min / 5 min / 10 min / 30 min	Off / 5 sec / 10 sec / 30 sec / 1 min / 3 min / 5 min / 10 min / 30 min	N/A
GPS Sentence	RMC / GGA / GLL / GSA / VTG / GSV	RMC / GGA / GLL / GSA / VTG / GSV	N/A
GPS Message Output	Yes	Yes	N/A
GPS Alarm	N/A	Yes	N/A
Unproto Address	AP1880, D-STAR	No Preset (API282, D-STAR)	N/A
Data Extension	Off / Route-speed	Off / Course / Speed	N/A
Time Stamp	Off / DHM / HMS	Off / DHM / HMS	N/A



# Base Station Transceivers



## 200W Output Power, Built-in

The power amplifier uses push-pull power MOS-FETs with a 48V DC supply. They provide a powerful 200W of output at 100 percent duty cycle. An effective cooling system maintains internal temperatures within a safe range and prevents thermal runaway.



PA Unit and heat sink

## Real-time Spectrum Scope

With its own dedicated DSP unit, the IC-7800's spectrum scope provides excellent sensitivity and 80dB of dynamic range. This scope rivals many of today's commercial test instruments. The display spans  $\pm 2.5\text{kHz}$  to  $\pm 250\text{kHz}$  in 7 steps, covering up to 500kHz of spectrum!



Example of spectrum scope centered on the receiving frequency.

Example of fixed spectrum scope range.

## 7-inch Wide Color TFT LCD

An active matrix 7-inch (800×400 pixel) TFT color display was selected for the IC-7800. This large display shows main and sub-band frequencies, settings, and operating parameters, as well as the spectrum scope, S-meter, and RTTY/PSK31 decoded messages. The “virtual” S-meter needle swings smoothly and accurately, just like an analog meter.

## Other Outstanding Features

**[Antenna and receiver]**

- 4 antenna connectors with automatic antenna selector
- Automatic antenna tuner
- Special preamp and mixer circuit optimized for 50MHz band
- 3-step manual notch filter
- Digital twin PBT eliminates interference from adjacent signals
- 16-step noise reduction

**[CW mode]** • DSP-controlled CW keying waveform shaping • Multi-function electronic keyer with adjustable keying speed, dot-dash ratio and paddle polarity • APF selection (soft/sharp)

**[Operation]** • High-quality digital voice memory • Triple band stacking register • Built-in RTTY and PSK31 modulator and demodulator • Message memory for CW, RTTY and PSK31 operations • Twin peak audio filter for RTTY operation • CF memory card for storing customized personal settings • 101 memory channels • AGC control for fine tuning of the AGC time constant • Microphone equalizer and adjustable transmit bandwidth • FFT scope averaging function for PSK and RTTY decode • Screen saver function





**+40dBm 3rd order intercept point (in the HF bands)**

**2nd order intercept point higher than +110dBm**

**Excellent inband IMD specifications**

**Three hi-spec 1st IF filters (roofing filters)**

**7-inch wide color TFT LCD**

**32-bit DSP units and 24-bit AD/DA converters**

**200W output power and high-stability transmitter**

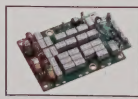
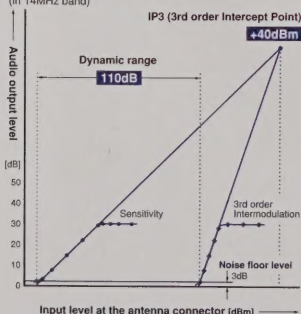


## HF/50MHz TRANSCEIVER IC-7700

### +40dBm IP3 (3rd order Intercept Point) and 110dB Dynamic Range

The IC-7700 employs mechanical relay BPF switching, a digitally tuned pre-selector, and three hi-spec 1st IF filters (roofing filters) in a clean and simple double conversion superheterodyne design. By balancing the analog and DSP functions, the IC-7700 provides superior sensitivity simultaneously with a superb dynamic range of 110dB, and +40dBm IP3 (even in USB mode with 2.4kHz filter bandwidth).

**Dynamic range characteristics**  
(in 14MHz band)



DIGI-SEL unit



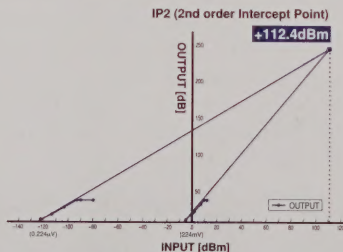
BPF unit

### More than +110dBm IP2 (2nd order intercept point)

An IP2 point of more than +110dBm\* means 2nd order distortion from strong broadcast stations will be completely eliminated. The continuous pursuit of leading analog circuit engineering makes it possible to achieve this leading edge level of performance.

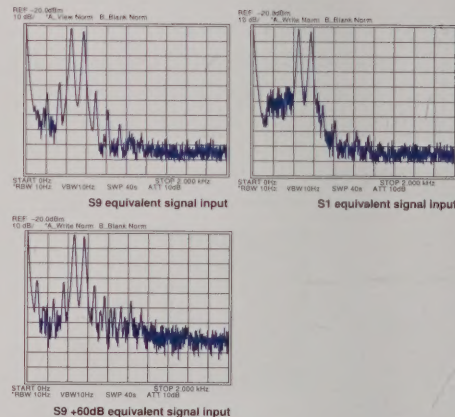
\* The IP2 figure is a typical value.

\*\* Measurements were made using custom equipment, due to the limits of normal signal generators (SG) and duplexers to +85dBm.



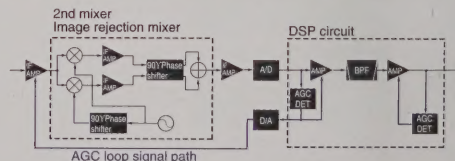
### High Specification Inband IMD

Inband IMD (Intermodulation Distortion) creates undesired spurious signals as a consequence of non-linear processing of multiple signals. All (2nd, 3rd or even higher) orders of IMD performance are superior in the IC-7700. The improvement will be especially evident in CW mode. You'll notice the difference as you copy weak signals without internal distortion or noise.



### Two AGC Loops

The IC-7700 has two AGC loops. The AGC voltages are derived both before and after the digital IF filter in the DSP unit. The first AGC loop prevents the saturation of the 1st IF amplifier from strong signals outside the pass-band filter. The second AGC loop detects the AGC voltage at the digital IF filter output which contains only the desired signal, obtaining full performance from the digital IF filter.





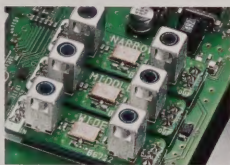
# Base Station Transceivers



## Three Hi-spec 1st IF Filters (Roofing filter)

Now a proven formula, the IC-7700 employs custom three hi-spec 1st IF filters (roofing filters) to achieve approximately 134dB\*<sup>1</sup> of blocking dynamic range.

\*<sup>1</sup> At 14.1MHz receive, with 5kHz separation of interference signal.



Hi-spec 1st IF filters (Roofing filters)

## 7-inch Wide Color TFT LCD

An active matrix 7-inch (800x400 pixel) TFT color display shows main and sub-band frequencies, settings, and operating parameters, as well as the spectrum scope, S-meter, and RTTY/PSK31 decoded messages in vivid color. The "virtual" S-meter needle swings smoothly and accurately, like an analog meter.

## Real-time Spectrum Scope

With its own dedicated DSP unit, the IC-7700's spectrum scope provides excellent sensitivity and 80dB of dynamic range. The display spans  $\pm 2.5$ kHz to  $\pm 250$ kHz in 7 steps, covering up to 500kHz of spectrum!

## USB Connectors on the Front Panel

Two USB connectors on the front panel allows you to easily connect a USB keyboard or USB flash drive to save transceiver settings, update firmware, or transfer settings to another IC-7700.



Two USB connectors

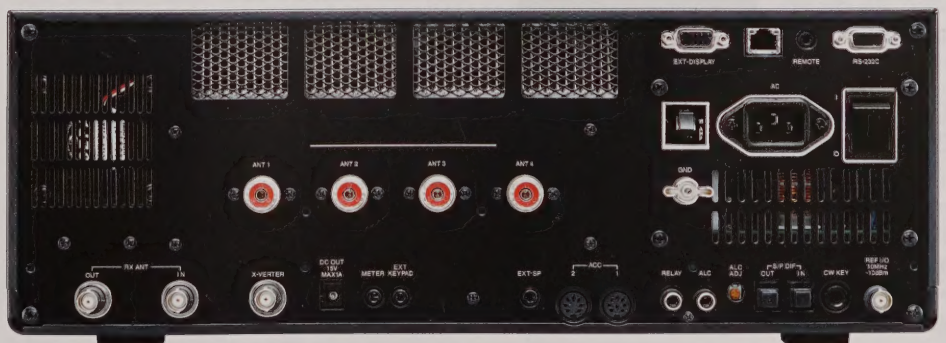
## Other Outstanding Features

**[Antenna and receiver]** • 4 antenna connectors with automatic antenna selector • BNC type RX IN/OUT connectors • Automatic antenna tuner • Preamp for 50MHz band • 3-step manual notch filter • Digital twin PBT eliminates

interference from adjacent signals • 16-step noise reduction

**[CW mode]** • DSP-controlled CW keying waveform shaping • Multi-function electronic keyer with adjustable keying speed, dot-dash ratio and paddle polarity • APF selection (soft/sharp) • Double key jack system

**[Operation]** • Built-in power supply • High quality digital voice memory • Message memory for CW, RTTY and PSK31 • Built-in RTTY and PSK31 modulator and demodulator • Twin peak audio filter for RTTY operation • Triple band stacking register • 101 memory channels • AGC control for fine tuning of the AGC time constant • Microphone equalizer and adjustable transmit bandwidth • FFT scope averaging function for PSK and RTTY decode • Screen saver function







HF/50MHz TRANSCEIVER

# IC-7600

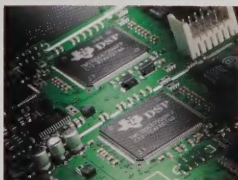
**+30dBm IP3**

**Improved inband IMD**

**5.8 inch ultra-wide viewing angle TFT display**

## Dual DSP for Transmitter/Receiver and Spectrum Scope

Two separate 32-bit DSP units power the transmitter/receiver and spectrum scope. These processors give the IC-7600 high performance comparable to our top-of-the-line IC-7800 and IC-7700, thanks to the combination of dual DSP and our analog RF design expertise.



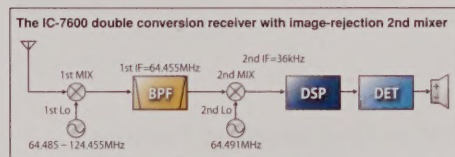
Dual DSP

## 104dB Dynamic Range and +30dBm IP3 (3rd order Intercept Point)

An astonishing 104dB receiver dynamic range and +30dBm IP3 in the 14MHz band without sacrificing receiver sensitivity is a standard specification be fitting the IC-7600. Even a weak signal adjacent to strong signals is clearly received by the IC-7600.

## Double Conversion Superheterodyne Improves Inband IMD

The IC-7600 employs a double conversion superheterodyne system which has an image rejection mixer for the 2nd mixer stage. When compared to a typical triple conversion system, the double conversion system is more difficult to implement but it dramatically reduces signal distortion and provides a high-linearity RF signal to the DSP processor.



## 5.8-inch Ultra-wide Viewing Angle TFT Display

The IC-7600's ultra-wide viewing angle display has excellent color rendering and high contrast ratio with fast response time. These features allow the spectrum scope and simulated analog meters to move smoothly and naturally.

## Dual AGC Loops Controlled by DSP

The IC-7600 has dual AGC loops, one analog and one digital, both under DSP control. This architecture prevents strong adjacent signals from "pumping" the AGC and allows maximum dynamic range in the DSP.

## Three Built-in 1st IF (roofing) Filters, Including 3kHz

The IC-7600 has three built-in 1st IF (roofing) filters ahead of the 1st IF amplifier stage. The 3kHz filter is especially effective in CW and SSB modes, eliminating overloading caused by strong signals just outside the passband.

## Other Features

**[Antenna and receiver]** • 2 TX/RX antenna connectors and RX antenna connector • Automatic antenna tuner • Auto notch filter and manual notch filter • Digital twin PBT • 16-step noise reduction • Dual watch

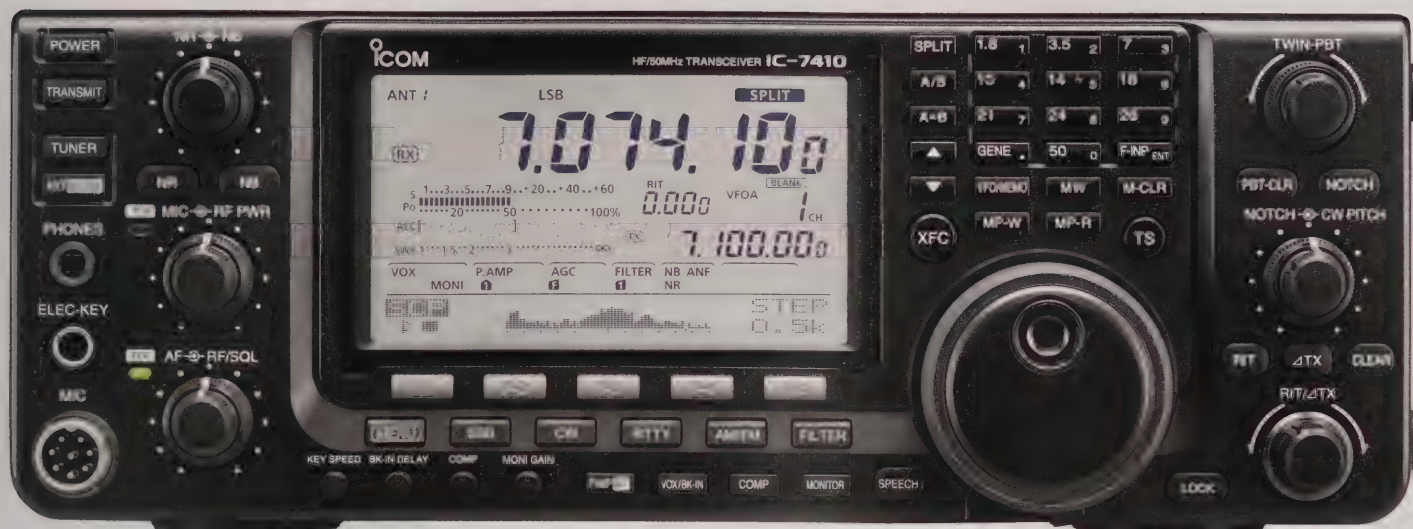
**[Transmitter]** • Tx monitor function • Tone encoder • VOX operation • All mode power control

**[CW mode]** • CW Waveform controlled by the DSP • Multi-function electronic keyer with adjustable keying speed, dot-dash ratio and paddle polarity • APF selection (soft/sharp) • Double key jack system

**[Operation]** • Spectrum scope • USB connectors on the front and rear panel • RTTY/PSK31 operation with a USB keyboard • 2 clocks show local and UTC time • High quality digital voice memory • Triple band stacking register • Message memory for CW, RTTY and PSK31 operations • 101 memory channels • Microphone equalizer and adjustable transmit bandwidth • FFT scope averaging function for PSK and RTTY decode • Programmable band edge beep • Screen saver function



# Base Station Transceivers



## HF/50MHz TRANSCEIVER

# IC-7410

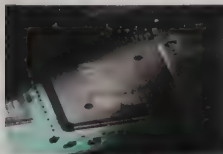
**Faster DSP unit and in-house DSP expertise**

**Double-conversion superheterodyne**

**+30dBm class third-order intercept point (IP3)**

### Faster DSP Unit and In-house DSP Expertise

Icom brings out the best DSP performance combining more than ten years of DSP technical know-how and much faster DSP processors. Icom's in-house DSP experts have developed a IC-746PRO series replacement that every operator will be proud to own. In addition to the higher speed DSP, the AD/DA converter, AK4620, provides a higher dynamic range and superior S/N ratio.



<DSP unit> ADSP-21369  
Internal clock speed: 333MHz  
32-bit floating point DSP  
Max. performance 2000MFLOPS



<AD/DA converter> AK4620  
ADC Signal/(Noise+Distortion): 100dB  
ADC Dynamic range, S/N: 113dB  
DAC Signal/(Noise+Distortion): 97dB  
DAC Dynamic range, S/N: 115dB

### Double-conversion Superheterodyne

Introduced with the IC-7800, a conversion superheterodyne design with an image rejection

mixer for the 2nd mixer stage is employed in the IC-7410. This receiver design not only reduces the electronic complexity, it greatly reduces the number of internal distortion points from older triple and quadruple conversion receivers.

### +30dBm Class IP3 (3rd Order Intercept Point)

In Icom's continuing efforts to create the best receiver, the design of the IC-7410 incorporates the latest in DSP software technology and Icom's analog RF circuit experience for a +30dBm\* (typ.) IP3. The end result, clear reception of weak signals surrounded by QRM from broadcast and neighboring ham stations.

\* Typical in 14MHz band. Spacing=100kHz

### Three First IF Filters (3/6/15kHz)

The IC-7410 accommodates three 1st IF filters with the 15kHz, 1st IF filter supplied, while the 3kHz FL-431 and 6kHz FL-430 are optional for better receiver performance by protecting the desired signal from nearby strong signals. (Fixed for 15kHz in FM mode.)

### Wide Range of DSP Features

Using the latest algorithms, the digital features give flexibility and speed needed for working in tough RF conditions.

- Digital IF filter allows you to choose filter width and shape factor
- Digital Twin PBT eliminates interference by changing the IF bandwidth and/or shifting the IF frequency
- AGC loop management with programmable

AGC time constant • Auto/manual Notch Filter provides more than 70dB attenuation and eliminates unwanted beat tones • Noise Reduction can enhance the receiver's signal-to-noise ratio • Noise Blanker reduces interference from pulse-type noise • RF Speech Compressor increases average talk power, improving signal strength and readability • User programmable tone control: microphone equalizer, SSB transmit passband width, receive HPF/LPF and receive audio equalizer

### Other Features

- Built-in voice synthesizer • User programmable band edge beep • VSC (Voice Squelch Control) function • Two preamplifier types: Preamp 1: Improving IMD characteristics, Preamp 2: High gain preamplifier • 20dB built-in attenuator • Built-in automatic antenna tuner • CTCSS tone encoder and decoder • Triple band stacking register • Quick split and frequency lock functions • RIT and  $\Delta$ Tx variable up to  $\pm 9.999$ kHz • SSB/CW synchronous tuning • 1Hz pitch tuning and display •  $\pm 0.5$ ppm of high frequency stability • Program, memory, select memory, mode select and  $\Delta$ f scans • Automatic tuning steps • AH-4 control circuit • Large independent MIC/RF power and Notch knobs • Large, multi-function LCD • USB connector for PC control • RTTY demodulator and decoder • Simple band scope • Ample CW functions • High frequency stability • Large heat sink • Optional RS-BA1 IP remote control software





## HF/50MHz TRANSCEIVER

# IC-7200

IF DSP

Rugged design for outdoor use

100W output power

### IF DSP

The latest IF DSP technology is employed in the IC-7200. While the IC-7200 is an entry-class transceiver, advanced digital features such as flexible filter width and shape setting, digital noise reduction and auto notch filter are comparable to higher class models.

### Rugged Design for Outdoor Use

The rugged design of the IC-7200 means your enjoyment of this rig is not limited only to your shack. Waterproof protection technologies used in Icom's marine radios are applied to the buttons and knobs on the front panel to provide a basic measure of protection against water intrusion\*.

\* IC-7200 is NOT waterproof.

### AGC Loop Management

Distortion and blocking from strong nearby signals are prevented by placing DSP functions inside the AGC loop. The AGC time constants are selectable from fast, slow and off for each operating mode.

### High Stability Transmitter

The DDS (Direct digital synthesizer) creates a clear, clean transmit signal and improves the carrier-to-noise ratio. A dual-fan cooling system provides stable high quality output even during high duty cycle operation.

### Digital Twin PBT

Tailor your IF passband with the Twin PBT by electronically shifting the upper and lower edges of the IF filter. By using the concentric front-panel knobs, you can either narrow the IF passband, or shift the entire passband to eliminate interfering signals.

### Manual Notch Filter

The manual notch filter delivers more than 70dB of attenuation. Strong interfering tones will be eliminated without adversely affecting the AGC loop performance. On the bottom right of the front panel, a dedicated control knob adjusts the notch filter frequency.

### Other Features

- RIT • VOX •  $\pm 0.5\text{ppm}$  frequency stability
- LCD backlight (Hi/Low/Off) • CI-V interface
- 201 memory channels • Built-in 20dB attenuator • Preamp • Dial lock • Auto tuning step function • 1Hz step tuning • Band stacking register • Built-in voice synthesizer • Quick split
- Front facing speaker • USB connector for PC control

## IP REMOTE CONTROL SOFTWARE

# RS-BA1

### Optional RS-BA1 IP Remote Control Software

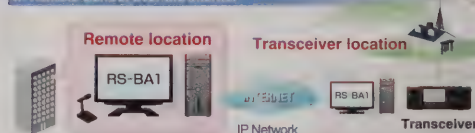
The optional RS-BA1 allows you to use the transceiver from another room using your home network, or even from a remote location over the Internet. The RS-BA1 has low voice latency.



### IP Remote Control through your Home Network



### IP Remote Control over the Internet





# Base Station Transceivers



HF/VHF/UHF TRANSCEIVER

## IC-7000

**IF DSP — First in its class**

**2-point Manual Notch Filter  
more than 70dB attenuation**

**2.5-inch color TFT display**

### IF DSP — First in Its Class

Digital IF filter, manual notch filter, digital twin PBT, AGC loop management, digital noise reduction and more. The latest digital features are incorporated in this compact radio by two DSP chips that deliver superior processing performance. Of course, those digital features work on all ham bands — HF, 50, 144MHz to the 430/440MHz band.

### 2-point MNF (Manual notch filter)

Pull out the weak signals in crowded band conditions with Icom's new two-point MNF (manual notch filter). Apply 70dB of rejection to two signals at once! Notch width is adjustable — wide, middle and narrow — and an auto-tuning notch filter is available, too.

### 2.5-inch Color TFT Display

The 2.5-inch color TFT display presents numbers and indicators in bright, concentrated colors for easy recognition. You can choose from 3 background colors and 2 font styles to suit your preference. The video output jack allows you to view a magnified display on an external monitor\*.

\* 3.5(d) mm monaural cable is required.

### Other Outstanding Features

- 35W output on 430/440MHz band
- $\pm 0.5$  ppm high stability crystal unit
- 8 direct access buttons for user-friendly operation
- Digital voice recorder for transmit and receive
- Built-in RTTY demodulator
- Remote control microphone, HM-151
- Fixed-mode and center-mode band scope
- Multi-function meter and SWR graphic displays
- Front panel separation with optional separation cable
- Built-in voice synthesizer



HF TRANSCEIVER

## IC-718



**Simple, straightforward  
operation with keypad**

**General coverage receive with  
superior performance**

**Optional DSP capability**

### Simple Operation

The IC-718 is equipped with a minimum number of buttons and controls for simple feature selection. The 10-key pad on the front panel allows direct entry of an operating frequency or a memory channel number. The auto tuning step function is activated when turning the dial quickly and helps speed up tuning. The band stacking register is convenient when changing operating bands.

### Front Mounted Loud Speaker

The IC-718 has the speaker mounted on the front panel. With the speaker facing the operator, audio will be heard clearly and directly while operating.

### Optional DSP Capability, UT-106

The optional DSP unit\* gives you noise reduction and auto notch filter functions for extra receiver performance.

\* Already built-in to USA version.



Optional UT-106

### General Coverage Receiver

The IC-718 has 0.03–29.999999MHz\* general coverage receive capability.

\* Guaranteed range: 0.5–29.999999 MHz

### Other Features

- Built-in electronic keyer
- Built-in microphone compressor
- Combined squelch and RF gain control
- Preamplifier and attenuator
- 101 memory channels
- CW full break-in
- IF shift interference rejection
- 1Hz tuning
- VOX function for hands-free operation
- Optional automatic antenna tuner
- Digital S/Rf meter



# All Band Transceivers



HF/VHF/UHF TRANSCEIVER

## IC-9100

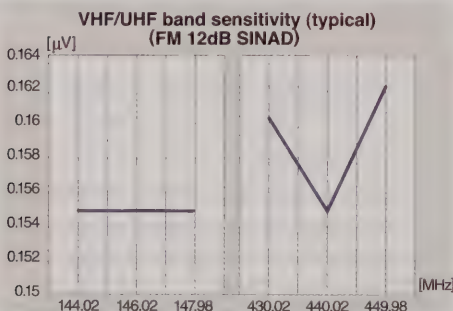
Superb readability in the VHF/UHF band

Ready-to-install 1200MHz band unit

Satellite mode operation

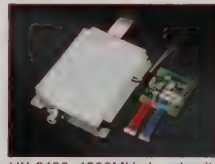
### Superb Readability in the VHF/UHF Band

The IC-9100 provides excellent receiver sensitivity in the VHF/UHF bands, equivalent to the highly-acclaimed previous VHF/UHF dedicated model, the IC-910H. The IF DSP greatly improves intermodulation and noise elimination and offers better readability than the IC-910H.



### Ready-to-install 1200MHz Band Unit

By installing the optional UX-9100 1200MHz band unit, you can be operational on the 1200MHz band immediately. The IC-9100 fully covers the HF/50, 144, 430/440 and 1200MHz amateur bands in multiple modes.



UX-9100, 1200MHz band unit

### Satellite Mode Operation

The satellite mode synchronizes the uplink (transmitting) and downlink (receiving) frequencies, and tracks the frequencies in the same tuning step. This function matches both normal and reverse mode satellites. Compensation of the Doppler effect can be performed easily. 20 satellite memory channels store frequencies, mode and tone settings for quick set-up.

### Double Conversion Superheterodyne

Icom's basic idea about the best receiver circuit is to reproduce high fidelity audio without internal distortion. Our answer to achieve this goal is to adopt a double conversion superheterodyne system\*. The double conversion system simplifies the electronic circuitry and reduces the number of components which cause internal distortion. The digital signal processing (DSP) technologies and image rejection mixer make it possible to adopt this system.

\* A triple conversion system is used for the 1200MHz band.

### +30dBm Class IP3

Using receiver design techniques introduced in Icom's highest grade HF transceivers, the IC-9100 has an IP3 of +30dBm\* in the HF band. Even a weak signal adjacent to strong signals is clearly received by the IC-9100.

\* Typical in 14MHz band. Spacing=100kHz

### Three First IF Filters (3/6/15kHz) for HF/50MHz Band

The IC-9100 comes with a built-in 15kHz 1st IF filter and can accept up to two optional filters (3kHz FL-431 and 6kHz FL-430). By changing the first IF filter width according to the operating mode, the desired is protected from adjacent inband signals at the later stages for better receiver performance.



1st IF filters (6kHz, 3kHz)

### Other Features

- Optional D-STAR\* DV mode (\* Digital Smart Technology for Amateur Radio)
- Independent dual receivers
- 32-bit floating point DSP & 24-bit AD/DA converters
- AGC loop management
- Digital IF filter
- Digital twin PBT and IF shift
- Noise reduction
- Noise blanker
- RF speech compressor
- Adjustable transmit bandwidth
- HF/50MHz, 144MHz 100W, 430/440MHz 75W
- RTTY demodulator and decoder
- Ample CW functions
- Built-in Antenna Tuner for HF/50MHz band
- Manual notch filter and auto notch filter
- Large, Multi-function LCD
- USB connector for PC control
- Optional CS-9100 programming software
- Optional RS-BA1 IP remote control software





UT-123 D-STAR unit and GPS receiver

## VHF/UHF DUAL BAND TRANSCEIVER

## IC-2820H

**D-STAR DV mode plus GPS receiver  
with optional UT-123**

**Wideband receiver\*<sup>1</sup>  
with diversity receive capability**

**50W output power  
on 144 and 430(440)MHz band**



**GPS**  
With UT-123

### D-STAR DV Mode + GPS Receiver with Optional UT-123

The optional UT-123 module provides D-STAR DV mode operation plus GPS receiver capability. Simultaneously send your current position, own callsign and up to a 20-character message along with your digital voice transmission. When location is provided by a calling station, the transceiver displays the distance and direction to the station.

### Wideband Receiver with Simultaneous Receive Capability

The transceiver receives 118–549.995 and 810–999.990MHz\*<sup>1</sup> with dualwatch receiver capability that allows you to receive two bands simultaneously (including within a single band).

\*<sup>1</sup> Receiver range differs depending on version.

### Other Features

- The large 93x28 mm (3.66x1.1 in) full dot-matrix display
- Separate controller from main unit
- 50W output on both VHF/UHF bands
- Total of 522 memory channels
- 16 DTMF memory channels
- 50 CTCSS and 104x2 DTCS encoder/decoder\*<sup>2</sup>
- Diversity receive capability
- $\pm 2.5$ ppm high frequency stability with TCXO unit
- Green to amber variable display background
- 9600 bps packet terminal, mini-DIN (6-pin) connector
- Max 45 channel/sec. high speed scan capability in programmed scanning mode
- Band scope function

\*<sup>2</sup> FM mode only.

## VHF/UHF DIGITAL TRANSCEIVER

## ID-880H

**D-STAR DV mode capability**

**DR (D-STAR repeater) mode  
for easy setup**

**CS-80/880 free download software**



### D-STAR Repeater List and DR Mode Operation

The D-STAR repeater list stores up to 300 channels of repeater call signs, frequencies, gateway call signs, duplex direction and offset frequency with channel names of up to 8 characters. The D-STAR repeater (DR) mode operation makes it easier to use a D-STAR repeater.

### GPS Position Reporting Functions

Your position data is shown on the display and can be sent to other station\*<sup>1</sup>. In addition, the GPS A mode assists in D-PRS mode operation to send your position information to an APRS server.

### Other Features

- CS-80/880 free download software
- Total of 1052 memory channels
- 16 DTMF memories
- 50 CTCSS and 104x2 DTCS encoder/decoder\*<sup>2</sup>
- Wideband receiver\*<sup>3</sup>
- Detachable controller
- Backlit LCD
- Auto power off and on
- Power save

\*<sup>1</sup> 3rd party GPS receiver is required.

\*<sup>2</sup> FM mode

\*<sup>3</sup> Receiver range differs depending on version.



## 1200MHz DIGITAL TRANSCEIVER

## ID-1

**128kbps data and 4.8kbps  
digital voice communication**

**PC remote control software**

**Wireless Internet access**



### 4.8kbps DV (digital voice) Mode and 128kbps\* DD (data) Mode

The ID-1 has three modes — analog FM, digital voice and data mode operation. The built-in AMBE<sup>®</sup> vocoder chip provides digitally modulated, clear audio as well as 128kbps wireless data transmission. In DD mode operation, you can use various Internet applications wirelessly by connecting to a PC with Ethernet and USB cables.

\* Maximum speed.

### PC Remote Controller Supplied

The PC controller software is supplied with the ID-1. When the ID-1 is connected to a PC, most functions of the ID-1 can be controlled from the PC screen. The controller software is convenient for editing memory channels, writing short data messages, and checking received call records, etc.

### Other Features

- Wireless Internet access\*<sup>1</sup>
- Digital callsign squelch (DSQL) and digital code squelch (CSQL)
- Short data message in DV mode
- Automatic Frequency Control (AFC) function for FM and DV mode
- S-meter squelch
- Programmed, memory and select mode scan
- Break-in communication
- Enhanced Monitor Request (EMR) function
- Auto repeater function for FM mode\*<sup>2</sup>
- Stand-by beep

\*<sup>1</sup> Within a D-STAR repeater service area.

\*<sup>2</sup> Depending on version.



# Mobile Transceivers



144MHz FM TRANSCEIVER

## IC-2300H

**65 Watts of RF Output Power  
with Heavy Duty Endurance**

**Powerful 4.5W Audio Output  
Provides Loud and Clear Audio**

**Tested to the Latest  
MIL-STD 810 G Specifications**

### Stable 65W of Output Power

The IC-2300H can generate 65W of output power. The rugged aluminum diecast provides effective heat dissipation and keeps RF output even during high duty cycle continuous transmission.

### Tested to the MIL-STD 810 G Specifications

The IC-2300H is built tough to protect from a rough road. It has been tested to and has

passed the latest MIL-STD 810 G specifications including shock, vibration and temperature tests.

### Other Features

- A Total of 207 memory channels
- Built-in CTCSS and DTCS encoder/decoder
- Simple operation
- Multiple scan functions
- Power supply voltage display
- Wide/narrow channel setting
- 4.5W (typical) loud audio
- Reduced depth dimensions
- DTMF autodial
- Time-out timer
- Repeater lock-out
- Automatic power off
- S-meter squelch
- Selectable LCD backlight color (amber, yellow and green)
- Weather channel receive and alert function (USA version only)
- Automatic repeater function (USA version only)
- Selectable squelch delay from short and long
- Squelch attenuator reduces suppression from strong signals
- PC to transceiver and transceiver to transceiver cloning capability



144MHz FM TRANSCEIVER

## IC-V8000

**Unbeatable 75W output power  
with efficient cooling fan**

**Total 200 memory channels  
with 10 memory banks**

**Remote control microphone,  
HM-133V**

### 75W of Output Power

The combination of Icom's one piece, die-cast aluminum chassis and MOS-FET power amplifier delivers a powerful 75W output power. Your communications will get through.

### Dynamic Memory Scan (DMS)

With 200 alphanumeric memory channels, Icom's exclusive DMS system gives you flexibility over your scanning lists never offered before in a 2m mobile, fully customizable into 10 memory banks.

### Other Features

- Front mounted speaker
- 10 DTMF memory channels
- DTMF pager/code squelch function with optional UT-108
- 50 CTCSS and 104x2 DTCS encoder/decoder
- Pocket beep and tone scan
- Squelch attenuator
- Weather channel with weather alert\*
- Narrow band FM mode\*
- Cooling fan control
- Squelch delay
- Amber and green, dual color LCD

\* U.S.A. version only.





IPX7

GPS

## UHF DIGITAL TRANSCEIVER

## ID-31A

## Lightweight &amp; Compact Body

The ID-31A has a compact 58×95×25.4mm (2.28×3.74×1in) body, and weighs only 225g (7.94oz) with battery pack and antenna (approx.). It's easy for carrying around all the time, anywhere.

Compact &amp; Lightweight

IPX7 Submersible

Built-in GPS Receiver

## IPX7 Submersible Construction

The ID-31A provides superior waterproof protection equivalent to IPX7 (1m depth of water for 30 minutes). Ideal for use in harsh outdoor environments.

## Built-in GPS Receiver

The built-in GPS receiver shows your current position and altitude on the display and offers a position reporting function in DV mode. The GPS log function logs your position information at regular intervals (1 second–60 seconds, depending on the setting) and memorizes this in the microSD card to export to your PC. In addition, the GPS-A mode assists in easy D-PRS mode operation.

## Other Features

- Automatic speech function announces the received call sign
- Digital code squelch
- Digital call sign squelch
- One touch reply function
- DR (D-STAR Repeater) mode
- Automatic reply function
- Analog FM mode (Wide/Narrow)
- Built-in CTCSS/DTCS encoder and decoder (for analog FM)
- 16 DTMF memory channels (24 digits)
- Squelch release function to monitor a weak signal
- Automatic repeater function\* (\* Depending on version)
- Optional CT-17, CI-V level converter for remote radio control
- Auto power save
- Auto power off
- Clock function
- Priority watch
- Key lock function

D-STAR DV mode capability

GPS position reporting function with optional GPS speaker-mic<sup>\*1</sup>

IPX7 Submersible

## Rugged Submersible Protection

The IC-92AD and optional HM-175GPS have superior waterproof protection and is equivalent to IPX7 (1m depth of underwater for 30 minutes), which you can count on in harsh outdoor environments.

## Optional GPS Speaker-microphone

Used with the optional HM-175GPS, the IC-92AD shows your position data on the display and offers automatic position reporting in DV mode. In addition, the GPS-A mode enables easy D-PRS system operation.

## Wideband Receiver with Dualwatch Capability

The IC-92AD has dualwatch receiver capability, allowing you to receive<sup>\*2</sup> on two bands simultaneously (including the same band).

## Other Features

- 5 Watts (typical) output
- Total of 1304 memory channels
- Large dot-matrix LCD
- 10 DTMF memories
- 50 CTCSS and 104×2 DTCS encoder/decoder<sup>\*3</sup>
- External DC power jack (10–16V DC acceptable)
- Simple band scope
- Optional PC remote control capability (with RS-92)
- Built-in voice recorder records an incoming call for up to 30-seconds (approx., DV mode)
- Backlit LCD
- Auto power save, power off and power on
- 26 memory banks with selected bank and bank link scanning

<sup>\*1</sup> Optional GPS speaker-microphone, HM-175GPS required.

<sup>\*2</sup> Receiver range differs from depending on version.

<sup>\*3</sup> FM mode

IPX7

GPS

With HM-175GPS



Photo includes optional HM-175GPS.

## VHF/UHF DUAL BAND DIGITAL TRANSCEIVER

## IC-92AD

D-STAR DV mode capability

DR (D-STAR repeater) mode for easy setup

CS-80/880 free download software

## D-STAR Repeater List and DR Mode Operation

The D-STAR repeater list stores up to 300 channels of repeater call signs, frequencies, gateway call signs, duplex direction and offset frequency with channel names of up to 8 characters. The D-STAR repeater (DR) mode operation makes it easier to use a D-STAR repeater.

GPS Position Reporting Functions<sup>\*1</sup>

Your position data is shown on the display and can be sent to other station. In addition, the GPS A mode assists in D-PRS mode

operation to send your position information to an APRS server.

## Other Features

- CS-80/880 free download cloning software
- Total of 1052 memory channels
- 16 DTMF memories
- 50 CTCSS and 104×2 DTCS encoder/decoder<sup>\*2</sup>
- Wideband receiver<sup>\*3</sup>
- External DC power jack (10–16V DC)
- Compact body with water resistance (Equivalent to IPX4)
- Backlit LCD
- Auto power off and on
- Power save

<sup>\*1</sup> Optional GPS speaker-microphone, HM-189GPS required.

<sup>\*2</sup> FM mode

<sup>\*3</sup> Receiver range differs depending on version.

IPX4

GPS

With HM-189GPS



Photo includes optional HM-189GPS.

## VHF/UHF DIGITAL TRANSCEIVER

## IC-80AD



# Handheld Transceivers



Rugged  
MIL-STD 810

IP54

**5W of output for both  
144 and 430(440) MHz bands**

**700mW loud audio  
with a BTL amplifier**

**Up to 10 hours of operating time  
with BP-264**

## VHF/UHF FM TRANSCEIVER IC-T70A

### 700mW Loud Audio

The IC-T70A uses a BTL (bridge-tied load) amplifier that doubles the audio output. The 36mm large speaker delivers 700mW of loud and intelligible audio\* even in noisy environments.

\* Using with internal speaker.

### Other Features

- External DC power jack
- A total of 302 memory channels
- Built-in CTCSS/DTCS
- Internal VOX function
- IP54 and MIL-STD-810 rugged construction
- WX channel and WX alert function (USA version only)
- Power save function

- SMA type antenna connector
- Automatic repeater function (USA version only)
- TOT (time out timer) setting
- Repeater lockout and busy channel lockout
- PC programmable with optional CS-T70
- Transceiver-to-transceiver cloning with optional OPC-474
- Direct keypad frequency entry
- 16 DTMF autodial memories
- Auto power off • LCD backlight
- Wide/narrow channel spacing

**750mW (typ.) loud audio  
with a BTL amplifier**

**Powerful 5.5W of output power**

**IP54 and MIL-STD-810  
rugged construction**

### 750mW Loud Audio

The IC-V80 uses a BTL (bridge-tied load) amplifier that doubles the audio output. The 36mm large speaker delivers 750mW of loud and intelligible audio\*. Great for noisy environments.

\* Typical value using with internal speaker.

### Other Features

- A total of 207 memory channels
- Built-in CTCSS/DTCS
- Internal VOX function
- WX channel and weather alert function (USA version only)
- Program, memory, skip, priority and tone scans
- Power save function
- BNC type antenna connector

- Automatic repeater function (USA version only)
- TOT (time out timer) setting
- Repeater lockout and busy channel lockout
- PC programmable with optional CS-V80
- Transceiver-to-transceiver cloning with optional OPC-474
- Direct keypad frequency entry
- DTMF autodial memories
- Auto power off
- LCD backlight
- Wide/narrow channel spacing

## 144MHz FM TRANSCEIVER IC-V80






Rugged  
MIL-STD 810

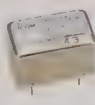

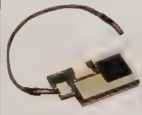
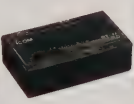





IP54



# OPTIONS FOR BASE STATION TRANSCEIVERS

MODEL NAME	HAND MICROPHONES		DESKTOP MICROPHONES				EXTERNAL SPEAKERS		
	HM-36	HM-151	SM-50	SM-30	SM-20	SM-27	SP-10	SP-21	SP-23
									
IC-7800	✓		✓	✓	✓				
IC-7700	✓		✓	✓	✓				
IC-7600	✓		✓	✓	✓				
IC-7410	✓		✓	✓	✓				✓
IC-7200	✓		✓	✓	✓	✓	✓	✓	✓
IC-7000		✓	(Use with OPC-589)	(Use with OPC-589)	(Use with OPC-589)		✓	✓	
IC-718	✓		✓	✓	✓	✓	✓	✓	✓
IC-9100	✓		✓	✓	✓			✓	✓

MODEL NAME	EXTERNAL SPEAKERS	DC POWER SUPPLIES		ANTENNA ELEMENT	ANTENNA TUNERS		FOLDED DIPOLE ANTENNA	FILTERS	
	SP-33	PS-125 13.8V/25A 6-pin type	PS-126 13.8V/25A 4-pin type	AH-2b Covers 7–54MHz	AH-4 Matches 3.5– 54 MHz bands	AT-180	AH-710 Covers 1.9–30 MHz bands. 	FL-430 6kHz 1st IF FILTER (For HF/ 50MHz band)   FL-431 3kHz 1st IF FILTER (For HF/ 50MHz band) 	FL-52A 500Hz/–6dB FL-53A 250Hz/–6dB FL-222 1.8kHz/–6dB FL-257 3.3kHz/–6dB
IC-7800	✓								
IC-7700	✓								
IC-7600			✓	✓	✓				
IC-7410			✓	✓	✓			✓	
IC-7200			✓	✓	✓	✓	✓		
IC-7000			✓	✓	✓	✓	✓		
IC-718		✓	✓	✓	✓	✓	✓		(Accepts only one filter)
IC-9100			✓	✓	✓			✓	

MODEL NAME	HIGH STABILITY CRYSTAL UNIT	VOICE SYNTHESIZER	DSP UNIT	CI-V CONVERTER	LINEAR AMPLIFIER	CARRYING HANDLES	HANDLE	MOBILE MOUNTING BRACKETS	
	CR-338 Frequency sta- bility: ±0.5ppm 	UT-102 	UT-106 	CT-17 	IC-PW1 	MB-23 MB-106 MB-117 MB-121 MB-123  Photo shows MB-117.	MB-116 	MB-62 	MB-118 
IC-7800				✓	✓				
IC-7700				✓	✓				
IC-7600				✓	✓	(Use MB-121)			
IC-7410				✓	✓	(Use MB-123)			
IC-7200				✓	✓	(Use MB-117)	✓		✓
IC-7000				✓	✓	(Use MB-106)		✓	
IC-718	✓	✓	(Installed depending on version)	✓	✓	(Use MB-23)			✓
IC-9100				✓	✓	(Use MB-123)			

✓ : Applicable      : Not applicable



# OPTIONS FOR BASE STATION TRANSCEIVERS

	MOUNTING BASES		CONTROLLER BRACKET	SEPARATION CABLES	MIC ADAPTER CABLE	ADAPTER CABLE	ACC 13-PIN CABLE	DC POWER CABLES	1200MHz BAND UNIT
MODEL NAME	MB-120	MBF-1	MB-105A	OPC-1443 3.5m;11.5ft OPC-1444 5.0m;16.4ft	OPC-589 8-pin connector microphone to 8-pin modular	OPC-599 13-pin ACC socket to 7-, 8-pin ACC sockets	OPC-742 Connection cable between transceiver and AT-180 with 2m/70cm linear amplifier	OPC-025A 20A cable OPC-1457 30A cable	UX-9100
IC-7800									
IC-7700								(Use OPC-1457)	
IC-7600								(Use OPC-1457)	
IC-7410						✓		(Use OPC-1457)	
IC-7200						✓		(Use OPC-1457)	
IC-7000	✓ (Use with MB-105A)	✓ (Use with MB-105A)	✓	✓	✓	✓	✓	(Use OPC-1457)	
IC-718						✓		(Use OPC-025A)	
IC-9100						✓		(Use OPC-1457)	✓

	CLONING SOFTWARE	IP REMOTE CONTROL SOFTWARE	D-STAR UNIT	DATA CABLES	
MODEL NAME	CS-9100 A USB cable (A-B type) is required for programming.	RS-BA1	UT-121	OPC-1529R DATA 1 Jack to RS-232C	OPC-2218LU DATA 1 Jack to USB
IC-7800					
IC-7700		(Possible)			
IC-7600		(Possible)			
IC-7410		✓			
IC-7200		✓			
IC-7000		✓			
IC-718		(Possible with CT-17)			
IC-9100	✓	✓	✓	✓	✓

☒ : Applicable
 ☐ : Not applicable

## GENERAL PURPOSE POWER SUPPLY










### PS-300

- Max. 30A output (25A continuous)
- 9-15V variable output voltage
- Transformer type
- Voltage and current meters
- 209(W)×120(H)×280(D) mm;  
8.23×4.72×11.02 in dimensions  
(Not available in some countries)



# OPTIONS FOR MOBILE TRANSCEIVERS

	HAND MICROPHONES				MOUNTING BASES		DC POWER CABLES	CONTROLLER	SEPARATION CABLES
MODEL NAME	HM-154	HM-154T w/DTMF keypad	HM-133/V w/DTMF keypad	HM-103	MB-120	MBF-1	OPC-347 7.0m: 23ft OPC-1132A 3.0m: 9.8ft	RC-24	OPC-1663 3.4m: 11.2ft OPC-1712 10cm: 3.9in
									
IC-2820H	✓		(Use HM-133)		✓	✓	✓		✓
ID-880H	✓		(Use HM-133)	✓	✓	✓	✓		
ID-1	✓							✓	
IC-2300H	✓		(Use HM-133V)				✓		
IC-V8000	✓	✓	(Use HM-133)				✓		

	SPEAKER CABLE	MICROPHONE CABLES	MIC ADAPTER CABLE	DATA CABLES		CLONING CABLES			CLONING SOFTWARE
MODEL NAME	OPC-441 5.0m: 16.4ft	OPC-440A 5.0m: 16.4ft OPC-647 2.5m: 8.2ft	OPC-589 8-pin connector microphone to 8-pin modular	OPC-1529R For data com- munication and PC cloning	OPC-2218LU USB cable	OPC-474 Between trans- ceivers	OPC-478 Transceiver to PC RS-232C cable	OPC-478UC Transceiver to PC USB cable	CS-2300H CS-2820 CS-80/880** CS-V8000 Optional OPC-478, OPC-478UC, OPC-1529R or OPC-2218LU cable required for pro- gramming.
									
IC-2820H	✓	✓	✓	✓	✓	✓	✓	✓	(Use CS-2820)
ID-880H	✓	✓	✓	✓	✓	✓	✓	✓	(Use CS-80/880)
ID-1		✓							
IC-2300H		✓	✓			✓	✓	✓	(Use CS-2300H)
IC-V8000	✓	✓	✓			✓	✓	✓	(Use CS-V8000)

\*\* CS-80/880 is available for free download from:  
<http://www.icom.co.jp/world/support/index.html>

	EXTERNAL SPEAKERS		DTMF DECODER UNIT	DIGITAL UNIT
MODEL NAME	SP-10	SP-22	UT-108	UT-123 With GPS receiver
				
IC-2820H	✓			
ID-880H	✓			
ID-1	✓	✓		
IC-2300H	✓			
IC-V8000	✓		✓	

✓ : Applicable    □ : Not applicable

## D-STAR repeater



**ID-RP2C**  
Repeater controller



**ID-RP2D**  
1.2GHz DD mode module



**ID-RP2V**  
1.2GHz DV mode module



**ID-RP2000V**  
144MHz DV mode module




**ID-RP4000V**  
430/440MHz DV mode module



**RS-RP2C**  
Internet gateway software



# OPTIONS FOR HANDHELD TRANSCEIVERS

MODEL NAME	BATTERY CASES				BATTERY PACKS				
	BP-216 LR6(AA)×2 cells	BP-257 LR6(AA)×2 cells	BP-263 LR6(AA)×6 cells	BP-273 LR6(AA)×3 cells	BP-217 (Li-Ion) 7.4V/1500mAh(min.) 1580mAh(typ.)	BP-256 (Li-Ion) 7.4V/1620mAh(min.) 1700mAh(typ.)	BP-264 (Ni-MH) 7.2V/1400mAh	BP-265 (Li-Ion) 7.4V/1900mAh(min.) 2000mAh(typ.)	BP-271 (Li-Ion) 7.4V/1150mAh(min.) 1200mAh(typ.)
ID-31A									
IC-92AD	✓	✓		✓	✓	✓			✓
IC-80AD			✓				✓	✓	
IC-T70A			✓				✓	✓	
IC-V80			✓				✓	✓	

MODEL NAME	BATTERY PACKS	DESKTOP CHARGERS							AC ADAPTERS
	BP-272 (Li-Ion) 7.4V/1880mAh(min.) 2000mAh(typ.)	BC-139 Rapid charger Includes AC adapter	BC-177 Rapid charger Includes AC adapter	BC-191 Rapid charger (For BP-264)	BC-192 Regular charger (For BP-264)	BC-193 Rapid charger (For BP-265)	BC-197 Rapid multi-charger	BC-202 Rapid charger	BC-123S*1 12V/1A
ID-31A									
IC-92AD	✓		✓					✓ (Use with BC-123S)	✓ (Use with BC-202)
IC-80AD		✓							
IC-T70A				✓ (Use with BC-123S)	✓ (Use with BC-147S/BC-206S)	✓ (Use with BC-123S)	✓ (Use with BC-157S)		✓ (Use with BC-191 or BC-193)
IC-V80				✓ (Use with BC-123S)	✓ (Use with BC-147S/BC-206S)	✓ (Use with BC-123S)	✓ (Use with BC-157S)		✓ (Use with BC-191 or BC-193)

MODEL NAME	AC ADAPTERS	WALL CHARGER	CHARGER ADAPTERS	CIGARETTE LIGHTER CABLES		DC POWER CABLES	
	BC-147S*2 BC-206S 12V/200mA	BC-157S*3 12V/6.6A	BC-167S*4 12V/500mA	AD-120*6 For BP-264	AD-121*6 For BP-265	CP-12L with noise filter	CP-19R with DC-DC con- verter
ID-31A							
IC-92AD			✓			✓	✓
IC-80AD			✓			✓	✓
IC-T70A	✓ (Use with BC-192)	✓ (Use with BC-197)	✓*5	✓ (Use with BC-197)	✓ (Use with BC-197)	✓*5	✓*5 (Use with BC-191 or BC-193)
IC-V80	✓ (Use with BC-192)	✓ (Use with BC-197)		✓ (Use with BC-197)	✓ (Use with BC-197)		✓ (Use with BC-191 or BC-193)

\*1 BC-123SA for USA, SE for Europe and SV for Australia version available.

\*2 BC-147SA for USA, SE for Europe and SV for Australia version available. BC-206SE for Europe version available.

\*3 BC-157S for USA, Europe, UK and Australia versions available.

\*4 BC-167SA for USA, SD for Europe and SV for Australia version available.

\*5 For charging BP-264, BP-265 cannot be charged using the external DC power jack.

\*6 Either AD-120 or AD-121 is supplied with the BC-197, depending on version.










✓ : Applicable      : Not applicable



# OPTIONS FOR HANDHELD TRANSCEIVERS

MODEL NAME	DC POWER CABLES		SPEAKER-MICROPHONES						
	OPC-515L	OPC-656 12-20V DC CABLE	HM-75LS	HM-131	HM-158L	HM-159L	HM-174 IPX7	HM-175GPS IPX7 GPS	HM-186LS
ID-31A									
IC-92AD	✓	✓	✓	(Use with OPC-1797)	✓	✓	✓	✓	✓
IC-80AD	✓	✓	✓	✓	✓	✓	✓	✓	✓
IC-T70A	✓	✓	✓	✓	✓	✓	✓	✓	✓
IC-V80	✓	✓	✓	✓	✓	✓	✓	✓	✓


MODEL NAME	SPEAKER-MICROPHONES	EARPHONE-MICROPHONES				HEADSETS			EARPHONES
	HM-189GPS GPS	HM-153/L	HM-153LS	HM-166	HM-166LS	HS-94 Earhook type with boom microphone	HS-95 Behind-the-head type	HS-97 Throat microphone type	SP-13
ID-31A									
IC-92AD	✓	(Use HM-153 with OPC-2144)	✓	(Use with OPC-2144)	✓	(Use with OPC-2006LS)	(Use with OPC-2006LS)	(Use with OPC-2006LS)	(Use with OPC-2144)
IC-80AD	✓	(Use HM-153 with OPC-1797)	✓	(Use with OPC-1797)	✓	(Use with OPC-2006)	(Use with OPC-2006)	(Use with OPC-2006)	(Use with OPC-1797)
IC-T70A	✓	(Use HM-153)	✓	✓	✓	✓	✓	✓	✓
IC-V80	✓	(Use HM-153L)	✓	✓	✓	✓	✓	✓	✓






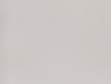


MODEL NAME	EARPHONES	PLUG ADAPTER CABLES					BELT CLIPS		
	SP-27	OPC-1797	OPC-2004	OPC-2006	OPC-2006LS	OPC-2144	MB-86 Swivel type	MB-111 Alligator type	MB-124 Alligator type
ID-31A									
IC-92AD	✓	✓	✓	✓	✓	✓	✓	✓	✓
IC-80AD	✓	✓	✓	✓	✓	✓	✓	✓	✓
IC-T70A	✓	✓	✓	✓	✓	✓	✓	✓	✓
IC-V80	✓	✓	✓	✓	✓	✓	✓	✓	✓

✓ : Applicable    ☐ : Not applicable



# OPTIONS FOR HANDHELD TRANSCEIVERS

MODEL NAME	BELT CLIPS	VEHICLE CHARGER BRACKET	CARRYING CASES				CLONING CABLES		
	<b>MB-127</b> Alligator type 	<b>MB-130</b> 	<b>LC-163</b> 	<b>LC-168</b> 	<b>LC-174</b> 	<b>LC-178</b> 	<b>OPC-474</b> Between transceivers 	<b>OPC-478</b> Transceiver to PC RS-232C cable 	<b>OPC-478UC</b> Transceiver to PC USB cable 
ID-31A	✓					✓			
IC-92AD				✓			(Use with two OPC-1797s) ✓		
IC-80AD			✓				✓		
IC-T70A					✓		✓	✓	✓
IC-V80		(Use with BC-191/192/193) ✓ (Use with BC-191/192/193) ✓					✓	✓	✓

MODEL NAME	DATA CABLES			CLONING SOFTWARE	REMOTE CONTROL SOFTWARE	ANTENNA ADAPTER	ANTENNAS	CI-V LEVEL CONVERTER
	<b>OPC-1529R</b> Transceiver to PC RS-232C cable 	<b>OPC-1799</b> Transceiver to PC RS-232C cable 	<b>OPC-2218LU</b> USB type 	<b>CS-31**1</b> <b>CS-80/880**1</b> <b>CS-T70</b> <b>CS-V80</b> Optional OPC-478, OPC-478UC, OPC-1529R or OPC-2218LU cable required for programming. 	<b>R5-92</b> OPC-1799 cable included 	<b>AD-925MA</b> BNC type antenna connector 	<b>FA-B2E</b> <b>FA-S270C</b> 	<b>CT-17</b> 
ID-31A			✓	(Use CS-31) ✓		✓	(Use FA-S270C) ✓	✓
IC-92AD		✓		✓	✓	✓	(Use FA-S270C) ✓	
IC-80AD	✓		✓	(Use CS-80/880) ✓		✓	(Use FA-S270C) ✓	
IC-T70A				(Use CS-T70) ✓		✓	(Use FA-S270C) ✓	
IC-V80				(Use CS-V80) ✓			(Use FA-B2E) ✓	

\*\*CS-31 and CS-80/880 are available for free download from: <http://www.icom.co.jp/world/support/index.html>

✓ : Applicable    ☐ : Not applicable



# SPECIFICATIONS FOR BASE STATION TRANSCEIVERS

		IC-7800	IC-7700	IC-7600	IC-7410
General	Frequency coverage (Differs according to version)	Tx: 1.8, 3.5, 5*1, 7, 10, 14, 18, 21, 24, 28, 50MHz bands Rx: 30kHz–60MHz*2 *1 Depending on version. *2 Some frequency ranges are not guaranteed.	Tx: 1.8, 3.5, 5*1, 7, 10, 14, 18, 21, 24, 28, 50MHz bands Rx: 30kHz–60MHz*2 *1 Depending on version. *2 Some frequency ranges are not guaranteed.	Tx: 1.8, 3.5, 5*1, 7, 10, 14, 18, 21, 24, 28, 50MHz bands Rx: 30kHz–60MHz*2 *1 Depending on version. *2 Some frequency ranges are not guaranteed.	Tx: 1.8, 3.5, 5*1, 7, 10, 14, 18, 21, 24, 28, 50MHz bands Rx: 30kHz–60.00MHz*2 *1 Depending on version. *2 Some frequency ranges are not guaranteed.
	Modes	USB, LSB, CW, RTTY, PSK31, AM, FM	USB, LSB, CW, RTTY, PSK31, AM, FM	USB, LSB, CW, RTTY, PSK31, AM, FM	USB, LSB, CW, RTTY, AM, FM
	Frequency stability	±0.05ppm (0°C to +50°C; +32°F to +122°F, after warm up)	±0.05ppm (0°C to +50°C; +32°F to +122°F, after warm up)	±0.05ppm (0°C to +50°C; +32°F to +122°F, after warm up)	Less than ±0.5ppm (0°C to +50°C; +32°F to +122°F)
	Maximum current drain	800VA	800VA	23A at 13.8V DC	23A at 13.8V DC
	Power supply requirement	85–265V AC (Auto sensing)	85–265V AC (Auto sensing)	13.8V DC ±15%	13.8V DC ±15%
	Antenna connector	SO-239 × 4 + BNC × 2 (50Ω)	SO-239 × 4 + BNC (50Ω)	SO-239 × 2 + phono [(RCA) 50Ω]	SO-239 × 2 (50Ω)
	Number of memory channels	101 (99 regular, 2 scan edges)	101 (99 regular, 2 scan edges)	101 (99 regular, 2 scan edges)	101 (99 regular, 2 scan edges)
	Dimensions (W×H×D; Projections are not included)	424×149×435 mm; 16.69×5.87×17.13 in	425×149×437 mm; 16.73×5.87×17.2 in	340×116×279.3 mm; 13.39×4.57×11 in	315×116×343 mm; 12.4×4.57×13.5 in
	Weight (approx.)	25kg; 55lb	22.5kg; 49.6lb	10.0kg; 22lb	10.2kg; 22.4lb
Transmitter	Output power	SSB, CW, RTTY, PSK31, FM: 5–200W AM: 5–50W	SSB, CW, RTTY, PSK31, FM: 5–200W AM: 5–50W	SSB, CW, RTTY, PSK31, FM: 2–100W AM: 1–30W	SSB, CW, RTTY, FM: 2–100W AM: 2–27W
	Spurious emissions	Less than –60dB (HF) Less than –70dB (50MHz)	Less than –60dB (HF) Less than –70dB (50MHz)	Less than –50dB (HF) Less than –63dB (50MHz)	Less than –50dB (HF) Less than –63dB (50MHz)
	Carrier suppression	More than 63dB	More than 63dB	More than 40dB	More than 40dB
	Unwanted sideband	More than 80dB	More than 80dB	More than 55dB	More than 55dB
	Microphone connector	8-pin connector (600Ω)	8-pin connector (600Ω)	8-pin connector (600Ω)	8-pin connector (600Ω)
Receiver	Sensitivity (typical) Preamp ON SSB, CW, RTTY, AM: at 10dB SIN FM, WFM: at 12dB SINAD DV: at 1% BER	SSB, CW, RTTY, PSK31 (2.4kHz): 0.1–1.799MHz 0.5μV 1.8–29.999MHz 0.16μV 50–54MHz 0.13μV AM (6kHz): 0.1–1.799MHz 6.3μV 1.8–29.999MHz 2.0μV 50–54MHz 1.0μV FM (15kHz): 28–29.999MHz 0.5μV 50–54MHz 0.32μV	SSB, CW, RTTY, PSK31 (2.4kHz): 0.1–1.799MHz 0.5μV 1.8–29.999MHz 0.16μV 50–54MHz 0.13μV AM (6kHz): 0.1–1.799MHz 6.3μV 1.8–29.999MHz 2.0μV 50–54MHz 1.0μV FM (15kHz): 28–29.999MHz 0.5μV 50–54MHz 0.32μV	SSB, CW, RTTY (2.4kHz): 1.8–29.995MHz 0.15μV 50–54MHz 0.12μV AM (6kHz): 0.5–1.799MHz 6.3μV 1.8–29.995Hz 2.0μV 50–54MHz 1.6μV FM (15kHz): 28–29.7MHz 0.5μV 50–54MHz 0.3μV	SSB, CW, : 1.8–29.999MHz 0.16μV 50–54MHz 0.13μV AM: 0.5–1.8MHz 12.6μV 1.8–29.999MHz 2.0μV 50–54MHz 1.6μV FM: 28–29.7MHz 0.5μV 50–54MHz 0.32μV
	Selectivity	SSB: 2.4kHz/–3dB (2.4kHz) 3.6kHz/–60dB CW: 500Hz/–3dB (500Hz) 700Hz/–60dB RTTY, PSK31: 360Hz/–6dB (350Hz) 650Hz/–60dB AM: 6.0kHz/–3dB (6kHz) 15kHz/–60dB FM: 12kHz/–6dB (15kHz) 20kHz/–60dB * Variable between 50Hz and 3.6kHz.	SSB, RTTY: 2.4kHz/–3dB (2.4kHz) 3.6kHz/–60dB CW: 500Hz/–3dB (500Hz) 700Hz/–60dB AM: 6.0kHz/–3dB (6kHz) 15kHz/–60dB FM: 12kHz/–6dB (15kHz) 20kHz/–60dB * Variable between 50Hz and 3.6kHz.	SSB: 2.4kHz/–6dB (2.4kHz) 3.8kHz/–60dB CW: 500Hz/–6dB (500Hz) 900Hz/–60dB RTTY: 350Hz/–6dB (350Hz) 650Hz/–60dB AM: 6.0kHz/–6dB (6kHz) 15kHz/–60dB FM: 12kHz/–6dB (15kHz) 20kHz/–60dB * Variable between 50Hz and 3.6kHz.	SSB: 2.4kHz/–6dB (2.4kHz) 3.4kHz/–40dB CW: 500Hz/–6dB (500Hz) 700Hz/–40dB RTTY: 500Hz/–6dB (350Hz) 800Hz/–40dB AM: 6.0kHz/–6dB (6kHz) 10kHz/–40dB FM: 12kHz/–6dB (15kHz) 22kHz/–40dB
	Spurious and image rejection	More than 70dB	More than 70dB	More than 70dB* (* Except IF point on 50MHz band)	More than 70dB
	AF power (at 10% distortion with an 8Ω load)	More than 2.6W	More than 2.6W	More than 2.0W	More than 2.0W
	External speaker connector	2-conductor 3.5 (d) mm (1/8")/8Ω×2 (for main and sub bands)	2-conductor 3.5 (d) mm (1/8")/8Ω	2-conductor 3.5 (d) mm (1/8")/8Ω	2-conductor 3.5 (d) mm (1/8")/8Ω

The LCD display may have cosmetic imperfections that appear as small or dark spots. This is not a malfunction or defect, but a normal characteristic of LCD displays.  
All stated specifications are subject to change without notice or obligation.



# SPECIFICATIONS FOR BASE STATION TRANSCEIVERS

		IC-7200	IC-7000	IC-718	IC-9100
General	Frequency coverage (Differs according to version)	Tx: 1.8, 3.5, 5 <sup>*1</sup> , 7, 10, 14, 18, 21, 24, 28, 50MHz bands Rx: 30kHz–60.000MHz <sup>*2</sup> <sup>*1</sup> Depending on version. <sup>*2</sup> Some frequency ranges are not guaranteed.	Tx: 1.8, 3.5, 5 <sup>*1</sup> , 7, 10, 14, 18, 21, 24, 28, 50, 144, 430(440)MHz bands Rx: 30kHz–199.999, 400–470MHz <sup>*2</sup> <sup>*1</sup> Depending on version. <sup>*2</sup> Some frequency ranges are not guaranteed.	Tx: 1.8, 3.5, 7, 10, 14, 18, 21, 24, 28MHz bands Rx: 30kHz–29.999MHz <sup>*1</sup> <sup>*1</sup> Guaranteed range 0.5–29.999MHz.	Tx: 1.8, 3.5, 5 <sup>*1</sup> , 7, 10, 14, 18, 21, 24, 28, 50, 144, 430 (440), 1200 <sup>**</sup> MHz bands Rx: 30kHz–60MHz <sup>*2</sup> , 136MHz–174MHz <sup>*2</sup> , 420MHz–480MHz <sup>*2</sup> , 1240MHz–1320MHz <sup>*3</sup> <sup>*1</sup> Depending on version. <sup>*2</sup> Some frequency ranges are not guaranteed. <sup>*3</sup> With optional UX-9100.
	Modes	USB, LSB, CW, RTTY, AM	USB, LSB, CW, RTTY, AM, FM, WFM <sup>*</sup> ( <sup>*</sup> Rx only)	USB, LSB, CW, RTTY, AM	USB, LSB, CW, RTTY (FSK), AM <sup>*</sup> , FM, DV (with UT-121) <sup>*</sup> Transmit HF/50MHz only. Cannot receive on 1200MHz band.
	Frequency stability	±0.5ppm (–10°C to +60°C; +14°F to +140°F)	±0.5ppm (0°C to +50°C; +32°F to +122°F)	Less than ±200Hz (From 1 min. to 60 min. after power ON)	±0.5ppm (0°C to +50°C; +32°F to +122°F, after warm up)
	Maximum current drain	22A at 13.8V DC	22A at 13.8V DC	20A at 13.8V DC	24A at 13.8V DC
	Power supply requirement	13.8V DC ±15%	13.8V DC ±15%	13.8V DC ±15%	13.8V DC ±15%
	Antenna connector	SO-239 (50Ω)	SO-239 x 2 (for HF/50MHz and 144/430(440)MHz bands: 50Ω)	SO-239 (50Ω)	HF/50MHz SO-239 (50Ω) x 2 144MHz SO-239 (50Ω) 430/440MHz Type-N (50Ω) 1200MHz Type-N (50Ω) (With UX-9100)
	Number of memory channels	201 (199 regular, 2 scan edges)	503 (495 regular, 6 scan edges and 2 call)	101 (99 regular, 2 scan edges)	396 <sup>*</sup> (99 for each HF/50, 144, 430/440, 1200MHz band) 4 Call <sup>*</sup> (1 for each band) 24 Scan edges <sup>*</sup> (6 for each band) 20 satellite <sup>*</sup> With optional UX-9100.
	Dimensions (W×H×D; Projections are not included)	241×84×291 mm; 9.49×3.31×11.06 in	167×58×180 mm; 6.57×2.28×7.09 in	240×95×239 mm; 9.45×3.74×9.41 in	315×116×343 mm; 12.4×4.57×13.5 in
	Weight (approx.)	5.5kg; 12.1lb	2.3kg; 5.1lb	3.8kg; 8.4lb	IC-9100: 11kg; 24.3lb UX-9100: 950g; 2.1lb
Transmitter	Output power	SSB, CW, RTTY: 2–100W AM: 1–25W	SSB, CW, RTTY, FM: 1.8–50MHz 2–100W 144MHz 2–50W 430(440)MHz 2–35W AM: 1.8–50MHz 1–40W 144MHz 2–20W 430(440)MHz 2–14W	SSB, CW, RTTY: 2–100W AM: 2–35W	SSB, CW, RTTY, FM, DV <sup>*1</sup> : HF/50MHz 2–100W 144MHz 2–100W 440MHz 2–75W 1200MHz <sup>*2</sup> 1–10W AM: HF/50MHz 2–30W <sup>*1</sup> With UT-121. <sup>*2</sup> With UX-9100.
	Spurious emissions	Less than –50dB (HF) Less than –63dB (50MHz)	Less than –50dB (HF) Less than –60dB (other bands)	Less than –50dB	1.8–29.7MHz Less than –50dB 50, 144MHz Less than –63dB 430/440MHz Less than –61.8dB 1200MHz Less than –53dB (With UX-9100)
	Carrier suppression	More than 50dB	More than 50dB	More than 40dB	More than 40dB
	Unwanted sideband	More than 50dB	More than 50dB	More than 50dB	More than 55dB
	Microphone connector	8-pin connector (600Ω)	8-pin modular (600Ω)	8-pin connector (600Ω)	8-pin connector (600Ω)
Receiver	Sensitivity (typical) Preamp ON SSB, CW, RTTY, AM: at 10dB S/N FM, WFM: at 12dB SINAD DV: at 1% BER	SSB, CW : 1.8–29.999MHz 0.16μV 50–54MHz 0.13μV AM: 0.5–1.8MHz 13μV 1.8–29.995MHz 2.0μV 50–54MHz 1.0μV	SSB, CW: 1.8–29.999MHz 0.15μV 50–54MHz 0.12μV 144/430(440)MHz 0.11μV AM: 0.5–1.8MHz 13μV 1.8–29.999MHz 2.0μV 50–54MHz 1.0μV 144/430(440)MHz 1.0μV FM: 28–29.7MHz 0.5μV 50–54MHz 0.25μV 144/430(440)MHz 0.18μV WFM: 76–108MHz 10μV	SSB, CW, RTTY: 1.8–29.999MHz 0.16μV AM: 0.5–1.799MHz 13μV 1.8–29.999MHz 2.0μV	SSB, CW : 1.8–29.999MHz 0.16μV 50–54MHz 0.13μV 144/440MHz 0.11μV 1200MHz 0.11μV <sup>*1</sup> AM: 0.5–1.8MHz 12.6μV 1.8–29.999MHz 2.0μV 50–54MHz 1.6μV 144/440MHz 1.4μV FM: 28–29.7MHz 0.5μV 50–54MHz 0.32μV 144/440MHz 0.18μV 1200MHz 0.18μV <sup>*1</sup> DV <sup>*2</sup> : 28–29.7MHz 1.0μV 50–54MHz 0.63μV 144/440MHz 0.35μV 1200MHz 0.35μV <sup>*1</sup> <sup>*1</sup> With UX-9100. <sup>*2</sup> With UT-121.
	Selectivity	SSB: 2.4kHz/–6dB (2.4kHz) 3.6kHz/–60dB CW: 500Hz/–6dB (500Hz) 900Hz/–60dB RTTY: 360Hz/–6dB (350Hz) 650Hz/–60dB AM: 6.0kHz/–6dB (6kHz) 15.0kHz/–60dB <sup>*</sup> Variable between 50Hz and 3.6kHz.	SSB: 2.4kHz/–6dB (2.4kHz) 3.6kHz/–60dB CW: 500Hz/–6dB (500Hz) 900Hz/–60dB RTTY: 360Hz/–6dB (350Hz) 650Hz/–60dB AM: 6.0kHz/–6dB (6kHz) 15kHz/–60dB FM: 12kHz/–6dB (15kHz) 20kHz/–60dB	SSB, CW, RTTY: 2.1kHz/–6dB 4.5kHz/–60dB AM: 6.0kHz/–6dB 20kHz/–40dB	SSB: 2.4kHz/–6dB (2.4kHz) 3.4kHz/–40dB CW: 500Hz/–6dB (500Hz) 700Hz/–40dB RTTY: 500Hz/–6dB (500Hz) 800Hz/–40dB AM: 6.0kHz/–6dB (6kHz) 10.0kHz/–40dB FM: 12kHz/–6dB (15kHz) 22kHz/–40dB DV (With UT-121) : –50dB (12.5kHz spacing) 1200MHz (With UX-9100) SSB, CW 2.3kHz/–6dB FM 15.0kHz/–6dB
	Spurious and image rejection (except IF)	More than 70dB <sup>*</sup> ( <sup>*</sup> Except ½ IF point on 50MHz band)	More than 70dB (HF) More than 65dB (other bands; except ½ IF point on 50MHz, 1F point 144MHz band)	More than 70dB (1.8–29.999MHz)	HF/50MHz More than 70dB <sup>*</sup> 144, 430/440MHz More than 60dB 1200MHz More than 50dB (With UX-9100) ( <sup>*</sup> Except 1F point on 50MHz band)
	AF power (at 10% distortion with an 8Ω load)	More than 2.0W	More than 2.0W	More than 2.0W	More than 2.0W
	External speaker connector	2-conductor 3.5 (d) mm (1/8")/8Ω	2-conductor 3.5 (d) mm (1/8")/8Ω	2-conductor 3.5 (d) mm (1/8")/8Ω	2-conductor 3.5 (d) mm (1/8")/8Ω x 2 (for main and sub bands)

All stated specifications are subject to change without notice or obligation.



# SPECIFICATIONS FOR MOBILE TRANSCEIVERS

	IC-2820H	ID-880H	ID-1	IC-2300H	IC-V8000
<b>Frequency coverage</b> (Differs according to version)	U.S.A. version: Tx (L/R) 144–148, 430–450MHz* <sup>1</sup> Rx (L) 118–549.995MHz* <sup>1</sup> (R) 118–173.995, 375–549.995, 810–999.990MHz* <sup>1+2</sup> EXP version: Tx (L/R) 136–173.995, 400–469.995MHz* <sup>3</sup> Rx (L) 118–549.995MHz* <sup>3</sup> (R) 118–173.995, 375–549.995, 810–999.990MHz* <sup>3</sup>	U.S.A. version : Tx 144–148, 430–450MHz Rx 118–173.995, 230–549.995, 810–999.990MHz* <sup>2+4</sup> EXP version : Tx 136–173.995, 400–469.995MHz* <sup>3</sup> Rx 118–173.995, 230–549.995, 810–999.990MHz* <sup>3</sup>	1240–1300MHz	U.S.A. version: Tx 144–148MHz Rx 136–174MHz* <sup>5</sup> EXP version: Tx/Rx 136–174MHz* <sup>5</sup>	U.S.A. version: Tx 144–148MHz Rx 136–174MHz* <sup>5</sup> CSA version: Tx/Rx 136–174MHz* <sup>5</sup>
<b>Max.current drain</b>	13A	VHF 11.5A UHF 12.5A	7A	11A	15A
<b>Dimensions</b> (W×H×D; Proj. not included)	Main unit: 150×40×187.7 mm; 5.91×1.57×7.39 in Controller: 150×58×31.5 mm; 5.91×2.28×1.24 in	Main + Controller: 150×40×199.2 mm; 5.91×1.57×7.84 in Controller: 122×40×29.7 mm; 4.8×1.57×1.17 in	Main unit: 141×40×165.8 mm; 5.55×1.57×6.53 in Controller: 150×50×49.5 mm; 5.91×1.97×1.95 in	140×40×162 mm; 5.51×1.57×6.38 in	150×50×150 mm; 5.91×1.97×5.91 in
<b>Weight</b> (kg, approx.)	Main unit: 1.5kg; 3.3lb Controller: 210g; 7.4oz (With OPC-1712)	1.3kg; 2.9lb (without microphone, cable and bracket)	Main unit: 1.2kg; 2.6lb Controller: 220g; 7.7oz	1.1kg; 2.43lb	1.09kg; 2.4lb
<b>Output power</b> (at 13.8V DC; Differs according to version)	High: 50W Mid: 15W (approx.) Low: 5W (approx.)	High: 50W Mid: 15W (approx.) Low: 5W (approx.)	High: 10W Low: 1W (approx.)	High: 65W Mid-Hi: 25W (approx.) Mid-Lo: 10W (approx.) Low: 5W (approx.)	High: 75W Mid-Hi: 25W (approx.) Mid-Lo: 10W (approx.) Low: 5W (approx.)
<b>Sensitivity</b> (FM: at 12dB SINAD DV, DD: at 1% BER Guaranteed range)	DV Less than 0.35μV (with UT-123) FM Less than 0.18μV (144, 430(440) MHz bands)	DV Less than 0.35μV FM Less than 0.18μV (144, 430(440) MHz bands)	DV Less than 0.35μV DD Less than 1.58μV FM Less than 0.18μV	Less than 0.18μV	0.15μV typ.
<b>Audio output power</b> (at 13.8V DC, 10% distortion)	More than 2.4W (8Ω load)	More than 2.0W (8Ω load)	More than 2.0W (8Ω load)	4.5W typ. (4Ω load)	More than 2.0W (8Ω load)

\*<sup>1</sup> Guaranteed range 144–148 and 440–450MHz. \*<sup>2</sup> Cellular blocked. \*<sup>3</sup> Guaranteed range 144–148 and 430–440MHz.

\*<sup>4</sup> Guaranteed range 144–148 and 430–450MHz. \*<sup>5</sup> Guaranteed range 144–148MHz.

(L) means left side receiver, (R) means right side receiver.

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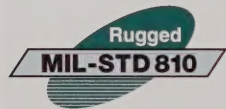
# SPECIFICATIONS FOR HANDHELD TRANSCEIVERS

	ID-31A	IC-92AD	IC-80AD	IC-T70A	IC-V80
<b>Frequency coverage</b> (Differs according to version)	U.S.A. version: Tx 420–450MHz*1 Rx 400–479MHz*1 EXP version: Tx/Rx 400–479MHz*2 EXP-01 version: Tx 430–440MHz Rx 400–479MHz*2	U.S.A. version: Tx (A/B)144–148, 420–450MHz*3 Rx (A) 0.495–999.990MHz*3+4 (B) 118–174, 350–470MHz*3 EXP version: Tx (A/B)137–174, 400–470MHz*5 Rx (A) 0.495–999.990MHz*5 (B) 118–174, 350–470MHz*5	U.S.A. version: Tx 144–148, 420–450MHz*3 Rx 0.495–999.990MHz*3+4 EXP version: Tx 137–174, 400–470MHz*5 Rx 0.495–999.990MHz*5	U.S.A. version: Tx 144–148, 420–450MHz*3 Rx 136–174, 400–479MHz*3 EXP version: Tx/Rx 136–174, 400–479MHz*5	U.S.A. version: Tx 144–148MHz Rx 136–174MHz*6 EXP version: Tx/Rx 136–174MHz*6
<b>Dimensions</b> (W×H×D; Proj. not included)	58×95×25.4 mm; 2.28×3.74×1 in	59×112×34.2 mm; 2.32×4.41×1.35 in	58.4×103×34.2 mm; 2.3×4.06×1.35 in	58×111×30 mm; 2.28×4.37×1.18 in	58×112×30 mm; 2.28×4.41×1.18 in
<b>Weight</b> (approx.)	225g; 7.94oz with antenna and BP-271	325g; 11.5oz with antenna and BP-256	290g; 10.3oz with antenna and BP-217	380g; 13.4oz with antenna and BP-264	360g; 12.7oz with antenna and BP-264
<b>Output power</b> (typical values)	5W, 2.5W, 0.5W, 0.1W at 7.4V DC	5W, 2.5W, 0.5W, 0.1W at 7.4V DC	5W, 2.5W, 0.5W, 0.1W at 7.4V DC	5W, 2.5W, 0.5W at 7.2V DC	5W, 2.5W, 0.5W at 7.2V DC
<b>Sensitivity</b> (FM: at 12dB SINAD DV: at BER 1% Guaranteed range)	DV Less than 0.28μV FM Less than 0.18μV	DV 0.22μV FM 0.14μV/0.16μV typ. (144/440 MHz bands)	DV 0.22μV typ. FM 0.14μV/0.16μV typ. (144/440 MHz bands)	0.18μV typ. (144/440 MHz bands)	0.14μV typ.
<b>Audio output power</b> (at 7.4V DC, 10% distortion)	More than 400mW (Internal SP, 16Ω load) More than 200mW (External SP, 8Ω load)	More than 200mW (8Ω load)	More than 300mW (8Ω load)	More than 700mW (Internal SP, 16Ω load) More than 400mW (External SP, 8Ω load)	750mW typ. (Internal SP, 16Ω load) 450mW typ. (External SP, 8Ω load)

\*1 Guaranteed range 440–450MHz. \*2 Guaranteed range 430–440MHz. \*3 Guaranteed range 144–148 and 440–450MHz. \*4 Cellular blocked. \*5 Guaranteed range 144–148 and 430–440MHz.

\*6 Guaranteed range 144–148MHz. (A) means VFO A receiver, (B) means VFO B receiver.

All stated specifications are subject to change without notice or obligation.



## Applicable U.S. Military Specifications

Icom makes rugged products that have been tested to and passed the MIL-STD requirements and strict environmental standards for shock (MIL-810C, D, E and F) and vibration (MIL-810C, D, E and F).

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